

**THE ROLE OF ICT IN ENHANCING TEACHING AND
LEARNING AMONG STUDENTS AND LECTURES AT THE
UNIVERSITY OF NIGERIA, NSUKKA**

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Abstract

Information and Communication Technologies (ICTs) have become essential in modern society, influencing sectors such as business, governance, and education. In the educational sector, the integration of ICT has transformed teaching, learning, research, and administrative processes, although its adoption in Nigerian tertiary institutions has been gradual. Recognizing the critical role of ICT in enhancing educational outcomes, this study investigates the role of ICT in enhancing teaching and learning among students and lecturers at University of Nigeria, Nsukka (UNN). This study was anchored on the Technology Acceptance Model (TAM), A descriptive survey research design was employed, and data were collected from 315 respondents, comprising undergraduate and postgraduate students, using a convenient sampling technique. Additionally, key informant interviews were conducted with selected lecturers to provide qualitative insights into ICT utilization in teaching, learning, research, and administration. The findings reveal that ICT has significantly influenced educational practices at UNN, improving access to learning resources, facilitating online communication, enhancing research capabilities, and streamlining administrative tasks. Respondents highlighted that ICT tools such as digital libraries, e-learning platforms, and management software have improved efficiency and productivity across the university. However, the study also identified barriers limiting effective ICT use, including inadequate infrastructure, limited funding,

inconsistent power supply, and insufficient technical training for both staff and students. The study recommends that adequate funding and policy support be provided to establish, develop, and implement ICT strategies in Nigerian universities. Furthermore, introducing structured computer apprenticeship programs and continuous ICT training will enhance the skills of students and lecturers, fostering improved utilisation of digital technologies.

Keywords: ICT, Education, Universities, Teaching, Learning

Introduction

Education reforms worldwide have emphasized the incorporation and integration of ICT in education (Mole, 2017). However, there are still gaps in the appropriate use of technology within the Nigerian education system. Information Communication Technology (ICT) encompasses the methods and tools used to gather, store, process, and communicate information. Its applications span across various professions worldwide, referred to by different names depending on the field. In education, it is known as E-learning Technology or Educational Technology, while in the broadcasting profession, it is called Electronics Information Technology or Communication Technology (Ekere, Omekwu&Nwoha, 2019). Considering the broad scope of ICT, it becomes evident that integration of ICT is crucial for the relevance and survival of almost any profession.

ICT includes technologies used for information transmission and dissemination, such as internet services, telecommunications, media, broadcasting, and related communication activities. Modern ICT products include email, voicemail, fax, internet, electronic bulletin boards, cellular phones, videoconferencing, and more. In Nigeria, there is a range of ICT tools available in schools, but there is a disparity in their availability among different institutions (Mole, 2017). It is important to assess lecturers' attitudes towards using these ICT facilities, especially as the demand for equipping Nigerian pre-service teachers with ICT skills increases.

However, inadequate ICT facilities and a lack of experience among teachers hinder the incorporation of ICT in schools. In the teaching profession, ICT has enabled the acceptance of distance education programs, improved instruction and reaching a larger number of learners. Infrastructure development in ICT is crucial in Nigerian higher institutions, as it is recognized globally as a driver of economic development and social change. It has the potential to reform organizations, foster collaboration, enhance citizen participation,

improve transparency and openness of public institutions, expand access to education and healthcare, encourage cultural creativity, and promote social integration. ICT is seen by Chigbu, (2018) as a valuable tool to introduce and sustain educational reform efforts in Africa.

Statement of the Problem

Nigeria is striving to utilize ICT to accelerate its development; however, it faces several challenges in this regard. The country has been relatively late in adopting IT for educational development, and specific challenges related to IT development, particularly in virtual libraries at universities, have not been adequately investigated (Thomas & Omotoke, 2018).

Failure to address these challenges will hinder Nigeria's progress and undermine the objectives of the country's National IT and educational policies. Underutilization or non-functionality of digital libraries in Nigeria can impede the country's integration into global information networks, negating the goals of its IT and educational policies (Chigbu, 2018). The impact of ICT depends on awareness, access, exposure, and utilization, which are all factors of media literacy. Some virtual libraries only bear the name but face various problematic issues such as non-functional or slow systems, lack of connectivity, or limited access to websites and materials.

Some ICT staff members may exhibit ignorance or lack expertise in modern communication technology when faced with questions from students and researchers. Additionally, some students may have limited ICT literacy and lack knowledge about library facilities, hindering their ability to express frustrations or offer suggestions to library managers (Akinagbe, & Baiyeri, 2020). This perpetuates confusion, contradictions, and systemic failures seen in some public facilities in Nigeria. These factors reveal the limited penetration of ICT in the Nigerian school system, thereby influencing teachers' and students' attitudes towards their usage. Therefore, there is a need to assess the function of ICT integration in teaching and learning within Nigerian University system.

Objectives of the Study

The primary of this paper is to examine the role of ICT in the University of Nigeria, Nsukka. Specifically, the study objectives are to:

- i. examine the current availability and utilization of ICT infrastructure and facilities in the University of Nigeria Nsukka.

- ii. ascertain the extent to which the integration of ICT has improved teaching, learning and administrative processes in the University.
- iii. ascertain the perception of students towards the effectiveness of ICT integration in the University of Nigeria, Nsukka.

Conceptual Framework

ICT

ICT is a truncation that represents Information and Communication Technology, a term that encompasses all digital tools, systems, and resources used to create, store, process, and communicate information. It is a paragliding concept that captures the continuous evolution of technological innovations that now shape human activities across education, governance, and socio-economic development.

Contemporary scholars note that ICT remains difficult to define precisely because technological advancements emerge rapidly, making the boundaries of the concept constantly shifting (Yusuf & Onasanya, 2020). As such, ICT today refers not only to computers and networks but also to mobile technologies, cloud platforms, artificial intelligence tools, and digital learning environments that support human interaction and knowledge exchange. Recent studies emphasise that ICT represents a broad ecosystem of technologies designed to enhance the management, retrieval, and dissemination of digital information. In the educational sector, ICT is increasingly recognised as the backbone of innovation, supporting teaching, learning, assessment, and administrative functions. For example, Okoye and Nwankwo (2021) conceptualise ICT as a set of digital solutions, including learning management systems, online libraries, and teleconferencing tools that expand access to educational resources and promote flexible learning. They argue that ICT now functions as both a medium and a catalyst for modern knowledge acquisition.

Furthermore, the rapid global shift towards digital education, particularly following the disruptions caused by COVID-19, has broadened the conceptual understanding of ICT in higher institutions. According to Adegboye and Aremu (2022), ICT is not simply a collection of devices but an integrated framework that supports virtual instruction, remote collaboration, and digital competence among students and lecturers. Their study highlights that modern ICT tools such as virtual classrooms, e-journals, simulation software, and digital assessment platforms have become essential for ensuring continuity of academic activities in universities worldwide.

In this research, ICT refers to the range of digital technologies and communication tools used for creating, storing, processing, and exchanging information within educational environments. It encompasses devices, software, networks, and online platforms that support teaching, learning, research, and administrative activities in the university setting.

Role of ICT in Education

The role of ICT in education has expanded significantly in recent years, becoming an essential driver of instructional delivery, knowledge access, and student engagement. ICT plays a transformative role by enhancing the efficiency, quality, and inclusiveness of educational systems. According to Wekesa (2021), ICT facilitates a dynamic learning environment where teachers can diversify instructional strategies, making lessons more interactive and learner centered. The integration of digital tools such as multimedia presentations, virtual learning platforms, and online assessment systems allows educators to improve lesson clarity, stimulate student interest, and support different learning styles.

This demonstrates that ICT not only broadens pedagogical options but also strengthens the capacity of educators to deliver content more effectively. ICT supports educational innovation by enabling students to access vast digital resources beyond their physical classroom. Omodero (2022) notes that digital libraries, online journals, and e-learning platforms provide learners with opportunities to conduct research, collaborate with peers, and deepen their understanding of complex concepts. Through ICT, education becomes a participatory process that encourages exploration and self-directed learning.

This aligns with modern educational expectations, where students require up-to-date information and real-time support for academic tasks. Consequently, ICT fosters intellectual curiosity, promoting a culture of continuous learning among students. In higher education, ICT enhances administrative efficiency and academic management. Ebeh and Nwankwo (2023) found that digital technologies streamline activities such as registration, record keeping, course management, and communication between students and lecturers.

These systems reduce bureaucratic delays and ensure greater accuracy in handling academic information. The transition from manual systems to ICT-based management ensures that universities can serve large populations of students more effectively, addressing issues of overcrowding, delays, and limited information flow. Thus, ICT contributes to a more organised and transparent academic environment.

In this study, the role of ICT in education denotes the functions and contributions of digital technologies in enhancing instructional delivery, expanding access to learning resources, improving communication between lecturers and students, strengthening assessment processes, and promoting innovative, interactive, and inclusive learning experiences in higher institutions.

Empirical Review of Related Studies

Adebayo and Yusuf (2022) examined the availability and application of ICT tools for instructional delivery among lecturers in South-West Nigerian universities. The study adopted a descriptive survey design and targeted lecturers across five public universities. Using a stratified sampling technique, 420 lecturers were selected, and a structured questionnaire was used for data collection. Data were analysed using mean scores and standard deviation. Their findings revealed that ICT facilities such as projectors, computers, smart boards, and internet connectivity were moderately available but underutilised due to challenges relating to inadequate technical support, unstable power supply, and limited access to updated software. The study recommended increased provision of ICT infrastructure, periodic training for lecturers, and improved electricity supply to encourage optimum utilisation of ICT in teaching.

Ekong and Okon (2022) investigated the availability of e-learning tools and platforms in federal universities in Southern Nigeria. Using a mixed-methods approach, the study sampled 315 students and 40 ICT personnel from three federal universities. Findings indicated that essential e-learning facilities such as Learning Management Systems (LMS), online portals, and digital library resources were available but not sufficiently maintained for continuous use. Students reported unstable internet connectivity and overcrowding of ICT centres as major barriers. The researchers recommended continuous upgrading of digital infrastructure, recruitment of trained ICT staff, and policies mandating routine maintenance of university ICT systems to improve teaching and learning outcomes. Olabode and Hassan (2021) carried out an empirical assessment of ICT integration in teaching and administrative tasks in Nigerian universities.

The research was anchored on a descriptive correlational design and used 278 academic and non-academic staff as respondents. Data collected through a validated questionnaire were analysed using regression statistics. The findings showed that ICT had significantly enhanced lecturers' instructional delivery through multimedia presentations, online assessments, and digital communication with

students. Administratively, ICT improved record keeping, examination processing, and real-time dissemination of information.

However, issues such as low ICT literacy among some staff and insufficient institutional funding were identified. The researchers recommended compulsory ICT training programmes and increased budgetary allocation to university ICT units.

Okolie and Bassey (2020) conducted a study on university students' perceptions of ICT-supported learning environments in South-East Nigeria. The study used a descriptive survey design and sampled 350 undergraduate students using simple random sampling. Results indicated that students perceived ICT-supported learning as highly beneficial for improving research ability, enhancing lecture comprehension, and enabling access to global academic resources.

The major challenges reported included poor bandwidth, limited computer availability, and inconsistent power supply. The authors recommended increased investment in ICT infrastructure and provision of stable internet services within campuses. Ochedi and Usman (2019) examined lecturers' attitudes toward ICT utilisation for teaching in Nigerian public universities. The study used an explanatory design and involved 210 lecturers drawn from three universities. Their findings revealed that most lecturers exhibited a positive disposition toward ICT adoption, recognising its relevance for effective pedagogy and research. However, many of them lacked advanced ICT competencies such as the use of statistical software, digital simulation tools, and online teaching platforms. The study recommended continuous professional development programmes and provision of modern ICT teaching facilities.

Theoretical Framework

This study is anchored on the Technology Acceptance Model (TAM), one of the most influential theories for explaining and predicting the acceptance and use of information and communication technologies. Developed by Davis in 1986, TAM proposes that a user's intention to adopt and utilise a technological system is primarily shaped by two key cognitive determinants: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Davies, 1986).

Perceived usefulness refers to the extent to which an individual believes that using a particular system will enhance their performance, while perceived ease of use denotes the degree to which a person believes that using the system will be free of effort. These two constructs interact to shape attitudes towards technology, behavioural intentions, and ultimately, actual system use. Over the years, TAM has

been widely applied in educational, organisational, and library contexts to predict users' acceptance of digital platforms, ICT tools, and emerging technologies.

In the aspect of a modern university environment, ICT facilities particularly digital libraries have become indispensable tools for academic engagement, research productivity, and knowledge dissemination. For students to benefit meaningfully from ICT-based library services, they must not only be aware of their existence but must also perceive them as both useful and easy to use.

TAM therefore provides a suitable theoretical foundation for understanding how these perceptions influence students' behavioural patterns regarding ICT facilities. By applying TAM to this study, it becomes possible to explain why some students readily adopt ICT library resources while others underutilise or disregard them, despite the availability of digital tools, online databases, and automated library services.

Methodology

Research Design

The study adopted a mixed-methods research design, combining quantitative and qualitative approaches to provide a comprehensive understanding of ICT use in the university. The quantitative component employed a descriptive survey research design to collect data from a large population of students, while the qualitative component involved key informant interviews (KIIs) with lecturers to capture in-depth insights into the role and challenges of ICT in teaching, learning, and administration.

The study was conducted in Nsukka, Nigeria, focusing on undergraduate and postgraduate students across selected departments in the University of Nigeria, Nsukka. The target population comprised students from the Department of Mass Communication (2,109), the Department of Microbiology (3,436), the Department of Foreign Languages (187), and the Department of Linguistics, Igbo and Other Nigerian Languages (350), giving a total population of 6,082 students. The inclusion of multiple departments across both the social sciences and sciences was intended to enhance the representativeness of the sample and improve the generalisability of the findings. The departments were selected to reflect disciplinary diversity within the university, thereby providing a broader perspective on the subject under investigation.

Sample Size: The sample size for the study was 361, derived from a total population of 6,082 using the Krejcie and Morgan Table. This

sample size is considered adequate for ensuring representativeness, as the Krejcie and Morgan model provides a statistically determined minimum sample required to generalise findings to a given population with a high degree of confidence. The selection of 361 respondents therefore guarantees sufficient coverage of the study population while maintaining reliability and precision in the analysis. This position is further supported by Tejumaiye (2022), who argues that a scientifically determined sample size enhances the validity and generalisability of research findings.

Sampling Technique: for quantitative survey, a convenience sampling technique was employed.

For the qualitative component, 7 lecturers from both departments were purposively selected as key informants, based on their experience with ICT integration in teaching, research, and administrative tasks.

Instrument of Data Collection:

The instruments for data collection included a structured questionnaire, an interview guide, and an observation checklist. The questionnaire was designed to measure student's awareness, utilisation, perceived usefulness, and limiting factors associated with ICT resources in the university. The questionnaire consisted of both closed-ended and Likert-scale items. A five-point Likert scale was employed, structured as Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1), to capture respondents attitudes and perceptions regarding ICT usage.

In addition, a semi-structured interview guide was used to obtain in-depth information from selected respondents. The interview guide contained open-ended questions designed to elicit detailed responses on student's experiences, challenges, and suggestions regarding ICT resources in the university. This allowed for flexibility and probing where necessary to gain deeper insights into the issues under investigation. Furthermore, an observation checklist was utilised to validate the availability, accessibility, and functionality of ICT infrastructure and facilities within the selected departments. The checklist focused on key indicators such as the presence of computer laboratories, internet connectivity, power supply, and the operational status of ICT equipment.

Method of Data Analysis: The quantitative, data were analysed using frequency counts, percentages, mean scores, and rankings to identify patterns and trends in ICT usage among students. For the qualitative component, the interviews were audio-recorded, transcribed verbatim, coded, and thematically analysed to identify common themes,

agreements, and disagreements among the lecturers regarding ICT implementation and its challenges.

Data Collection

Semi-structured interviews were conducted to elicit detailed perspectives on the role of ICT in facilitating teaching, learning, research, and university administration. The mixed-methods design allowed for triangulation of data, ensuring that the findings from the student survey were corroborated by lecturers’ experiences, and providing a richer understanding of ICT’s role in the university context. Ethical considerations were observed, including informed consent, voluntary participation, confidentiality, and the right to withdraw at any stage without penalty.

Data Presentation and Analysis: A total of three hundred and sixty-one (361) copies of questionnaire were administered during data collection of this study. However, only 315 were duly responded and returned, while the remaining 46 were either damaged or more than one option was indicated by the respondents.

Data Analysis

Table 1: Demographic Distribution of Respondents

Source:Field Survey 2024

Variable		Frequency (n)	Percentage (%)
Gender	Male	126	40
	Female	189	60
	Total	315	100.0
Age	16-25	181	57.5
	26-35	70	22.2
	36-45	55	17.4
	46 years and above	9	2.9
Affiliation of Respondents	Students	295	93.7
	Lecturers	7	2.2
	Non-Teaching Staff	13	4.1
Total		315	100.0

The table 1 above reveals that majority of the participants were female 189 (60%), while the minorities of the respondents were male 126(44.0%). Thus, the majorities were female, and minorities were

male. The age of the respondents shows in the above table 181(57.5%) of the respondents were from age 16-25, 70(22.2%) of the respondents were from 26-35, another 55(17.4%) from age 36-45 and 9(2.9%) is from 46 and above. Therefore, majority of the sampled participants were age 16-25.

. Table 1 shows the affiliation of the respondents,hence, 295(93.7%) of the selected respondents were students, 7(2.2%) were lecturers, 2(4.0%), while 13(4.1%) of the respondents were not teaching staff. The implication of the above is that the majority of the respondents were students, lecturers and non-teaching staff. As such, findings can be generalized for the entire school.

Table 2. Current availability and utilisation of ICT infrastructure and facilities in the University of Nigeria Nsukka

Source: FieldSurvey2024

	SA Freq. (%)	A Freq. (%)	D Freq. (%)	SD Freq. (%)	U Freq. (%)	Me an ($\bar{x}$)	Re mar k
Digital Libraries	201(1,005) (63.8%)	96(384) (30.5%)	8(24) (2.5%)	9(18) (2.9%)	1(1) (0.3%)	4.5	Acce pted
Computer Labs	221(1,105) (70.2%)	61(244) (19.4%)	25(75) (7.9%)	7(14) (2.2%)	1(1) (0.3%)	4.5	Acce pted
E-Learning Platforms	239(1,195) (75.9%)	61(244) (19.4%)	3(9) (0.9%)	2(4) (0.6%)	10(10) (3.2%)	4.6	Acce pted
Internet Connectivity	263(1,315) (83.5%)	38(152) (12.1%)	2(6) (0.6%)	9(18) (2.9%)	3(3) (0.9%)	4.7	Acce pted
Network Infrastructur e	269(1,345) (85.4%)	32(128) (10.2%)	3(9) (0.9%)	7(14) (2.2%)	4(4) (1.3%)	4.8	Acce pted
Average Overall Mean						4.6	

Table 2 shows that the respondents agreed that there is availability of digital libraries, computer labs, E-Learning platforms; internet connectivity and network infrastructure. The implication of the above is that there is availability of facilities improving the roles of ICT in University of Nigeria, Nsukka.

On the availability of ICT facilities, one of respondent stated that:

There is availability of MTA digital library for research work, WiFi structure that is located in school premises and hostels. She asserts that students are using the student portal and email provided to them for student's online activities. Also, the University emails make access to google class and online e learning (KII, 2024).

A respondent interviewed during the research, commenting on the role of ICT in teaching and learning at the university, stated that:

Lecturers now prepare and deliver lessons using PowerPoint, digital projectors, and online learning platforms, which make teaching more interactive and engaging. Students can access lecture notes, assignments, and reading materials online at any time, which has improved their learning outcomes significantly. ICT has also allowed us to conduct virtual discussions and seminars, especially during periods when physical attendance is not possible. This has expanded opportunities for students to ask questions freely, review lecture materials repeatedly, and engage in self-directed learning, which was limited in the traditional classroom setup (KII, 2024).

The ease of accessing lecture materials at any time also ensures that students who might have missed classes or have additional learning needs can catch up efficiently

Table 3 The extent to which the integration of ICT has improved teaching, leaning and administrative processes in the University of Nigeria, Nsukka.

Source: Field Survey 2024

	SA Freq. (%)	A Freq. (%)	D Freq. (%)	SD Freq. (%)	U Freq (%)	M ea n ($\bar{x}$)	Re ma rk
Enhanced access to information	218(1,090) (69.2%)	65(260) (20.6%)	7(21) (2.2%)	19(38) (6.0%)	6(6) (2%)	4.5	Acce pted
Improve interactive learning	237(1,185) (75.2%)	41(164) (13.0%)	15(45) (4.8%)	17(34) (5.4%)	5(5) (1.6 %)	4.5	Acce pted
Improved E-leaning and blended learning	205(1,025) (65.1%)	71(284) (22.5%)	3(9) (0.9%)	22(44) (7%)	14(14) (4.5 %)	4.4	Acce pted
Enhanced Efficiency and Automation	229(1,145) (72.7%)	48(192) (15.2%)	22(66) (7%)	9(18) (2.9%)	7(7) (2.2 %)	4.5	Acce pted
Improved information management	235(1,175) (74.6%)	52(208) (16.5%)	13(39) (4.1%)	7(14) (2.2%)	8(8) (2.5 %)	4.6	Acce pted
Average Overall Mean						4.5	

Table 4.3 shows that the respondents opined that the integration of ICT has enhanced access to information, improved interactive session, improved E-learning and blending learning, it has enhanced efficiency automation and improved information management. The implication of the above is that the integration of ICT has improved interconnectivity in University of Nigeria, Nsukka. A respondent interviewed during the research, commenting on the role played by ICT in the administrative process of UNN, stated that:

Processing of staff salaries are now done using software called “SAGA; similarly, ICT has also helped in creating files in personnel by using “personnel management software, and this also captures the new staff. He further stated that ICT has also helped in reducing manual processing of transcript and enhanced the processing of transcript worldwide, transcript is now done online, verification is done

online people does not need to travel from far distance for verification of certificate. These are some of the benefits of ICT in the University. Additionally, Information for students and staff and university community are being sent via email and WhatsApp where by reducing the cost of printing and distribution of letters to offices and billboards (KII, 2024).

Table 4. The perception of students towards the effectiveness of ICT integration in the University of Nigeria, Nsukka

	SA Freq. (%)	A Freq. (%)	D Freq. (%)	SD Freq. (%)	U Freq. (%)	Me an ($\bar{x}$)	Re ma rk
Increased access to information	231(1,155) (73.3%)	66(264) (20.9%)	5(15) (1.6%)	10(20) (3.2%)	3(3) (1%)	4.6	Acc epte d
Digital Skills Development	227(1,135) (72.1%)	61(244) (19.3%)	9(27) (2.9%)	12(24) (3.8%)	6(6) (1.9%)	4.6	Acc epte d
Convenience and flexibility	215(1,075) (68.3%)	81(324) (25.7%)	3(9) (0.9%)	2(4) (0.6%)	14(14) (4.5%)	4.5	Acc epte d
Lack of adequate ICT infrastructure	239(1,195) (75.9%)	58(232) (18.4%)	6(18) (1.9%)	9(18) (2.9%)	3(3) (0.9%)	4.7	Acc epte d
Enhanced Collaboration between students and staff	235(1,175) (74.6%)	62(248) (19.7%)	3(9) (0.9%)	7(14) (2.2%)	8(8) (2.5%)	4.6	Acc epte d
Average Overall Mean						4.6	

Table4.4 shows the perception of the students towards the effectiveness of ICT in the University of Nigeria, Nsukka, and findings showed that ICT has improved digital skills, enhance internet connectivity, and provides convenience and flexibility in research. However, it was discovered that there is inadequacy of ICT

infrastructure in the university. On the ways of improving the effectiveness of ICT one of the respondent stated that:

Adequate electricity supply, Proper maintenance of equipment, making available more sophisticated ICT equipment, and training and re training of ICT personnel and the enlightenment of ICT to the community are ways that should be employed by the University towards the improvement of the roles of ICT in UNN (KII, 2024).

Discussion of Findings

The study was conducted on the role of ICT in University of Nigeria, Nsukka. Findings showed that, there is availability of digital libraries, computer labs, E-Learning platforms; internet connectivity and network infrastructure. The above findings support the study of Chigbu (2018) which revealed that a majority of the respondents in UNN are aware of e-journals, with 93.13% having utilized them for their research and studies. Access to e-journals was facilitated through internet-ready computers provided by the university, nearby cybercafés, and personal laptops with wireless connectivity. However, respondents faced various challenges hindering smooth access to e-resources.

Integration of ICT has enhanced access to information, improved interactive session, improved E-learning and blending learning, it has enhanced efficiency automation and improved information management. The above contradicts with the findings by Mole (2017) which indicate that most of the online information resources are not extensively utilized by the undergraduate students in UNN Nsukka, with only a small number being frequently accessed. The primary purposes for which students use these resources are completing course assignments, projects, and keeping up with social events. Several challenges impede the effective utilization of these resources, including frequent power outages, limited availability of computers in the university library, and insufficient server band width.

On the perception of the students towards the effectiveness of ICT in the University of Nigeria, Nsukka, findings showed that ICT has improved digital skills, enhanced internet connectivity, and provides convenience and flexibility in research. However, it was discovered that there is inadequacy of ICT infrastructure in the university. These findings are in tandem with the findings by Ekere, Omekwu and Nwoha (2016) which showed that users generally had highly satisfactory observations of the facilities, resources, and services provided by the digital library.

Conclusion and Recommendations

This study evaluated the role of Information and Communication Technology (ICT) in driving change in higher education in Nigeria. The results showed that ICTs have had a significant impact on educational practices in Nigeria, and this impact is expected to grow in the future if the barriers that hinder effective utilization of ICT as a catalyst for change in tertiary education are addressed. Without a doubt, ICT will become a powerful force for change in many Nigerian tertiary institutions. In light of the above, the study recommends the following:

- i. Learning should be more aligned with the needs of stakeholders, and learning outcomes should be intentional and focused. Additionally, learning opportunities should be diversified in terms of content and target audience.
- ii. ICTs should be utilized to unlock the potential of human resources and enable activities that support this goal.
- iii. Adequate funding must be provided to establish, develop, promote, review, and implement ICT policies in the education sector. This will enhance the utilization of ICT, particularly through computer apprenticeship courses offered in Nigerian tertiary institutions.

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